Complete Summary

TITLE

Heart failure in adults: percentage of adult patients with heart failure (HF) who are on an angiotensin-converting enzyme (ACE) inhibitor before or at the time of the clinic visit.

SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2004 Feb. 83 p. [104 references]

Brief Abstract

DESCRIPTION

This measure assesses the percentage of adult patients with heart failure (HF) who are on an angiotensin-converting enzyme (ACE) inhibitor before or at the time of the clinic visit.

RATIONALE

The priority aim addressed by this measure is to optimize the pharmacologic treatment of patients with heart failure (HF).

PRIMARY CLINICAL COMPONENT

Heart failure; angiotensin-converting enzyme inhibitor

DENOMINATOR DESCRIPTION

Number of patients with heart failure (HF) whose medical records are reviewed (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Number of patients with heart failure (HF) from the denominator who are currently on an angiotensin-converting enzyme (ACE) inhibitor (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Process

SECONDARY MEASURE DOMAIN

Not applicable

EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [Heart failure in adults.](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Unspecified

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Physician Group Practices/Clinics

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Group Clinical Practices

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Unspecified

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Unspecified

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Adult patients 18 years of age or older diagnosed with heart failure (HF)

From the medical group's claims/encounter (billing) data or from appointment lists (if billing data are inaccessible), identify all patients age 18 and older with one or more visits for HF in the quarter. From this pool of patients unique within that quarter, randomly select 20 patients for each month.

Patients should be unique within each quarter, but patients can repeat from one quarter to the next.

Patients may be on other medications, in addition to the angiotensin-converting enzyme (ACE) inhibitor.

See "Measurement Tool" -- Optional Medical Record Review Format for ACE Inhibitor Use in the original measure documentation, as an example.

For groups without access to billing information, a process similar to the following may be helpful:

1. Determine the beginning and ending dates of the quarter, a three month period.
2. At the end of the first quarter, review Month 1's appointment lists for people who had one or more visits for HF. Suppose there were 25 people in Month 1. Randomly select 20 people and review their records, using the attached form (refer to the original measure documentation).
3. At the end of the second month of the quarter, review Month 2's appointment lists for people who had visits for HF. Suppose there were 30 people in Month 2. Make a list of those 30 names, deleting any patients who had been reviewed in Month 1. Suppose three people seen in Month 2 had been reviewed in Month 1. These three people are deleted from the 30, leaving 27 potential people to review. Randomly select 20 people and review their records, using the attached form (refer to the original measure documentation).
4. At the end of the third month of the quarter, review Month 3's appointment lists for people who had visits for HF. Suppose there were 28 people in Month 3. Make a list of those 28 names, deleting any patients who had been reviewed in Month 1 or Month 2. Suppose five people seen in Month 3 had been reviewed in Month 1 or Month 2. These five people are deleted from the 28, leaving 23 potential people to review. Randomly select 20 people and review their records, using the attached form (refer to the original measure documentation).
5. At the start of the next quarter, start the process over with Step 2. Do not worry about including people who had been reviewed in the previous quarter.

Analysis:

Count all the abstraction forms in which the patient had HF (question #1, "Documentation of diagnosis of HF at this visit or within the last six months [yes/no]" in the Optional Medical Record Review Format for ACE Inhibitor Use [refer to the original measure documentation]). This will be the denominator.

From these forms, count all in which the patient is on an ACE Inhibitor (question #2, "Documentation of patient on ACE inhibitor at this visit or within the last six months: (Drug should be documented: On that visit day OR within the past six months OR on the last recorded medication list) [yes/no]" in the Optional Medical Record Review Format for ACE Inhibitor Use [refer to the original measure documentation]). This will be the numerator.

Ordinarily, the sample would be drawn quarterly; data would be abstracted monthly.

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR (INDEX) EVENT

Clinical Condition
Encounter

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions
Number of patients with heart failure (HF) whose medical records are reviewed*

*Patients age 18 and older with HF as defined by: one or more visits with any (primary or secondary) diagnosis of HF (International Classification of Diseases, Ninth Revision [ICD-9] code 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 428.0, 428.1, 428.2, 428.3, 428.4, or 428.9) in the last quarter.

Chart documentation of a left ventricular ejection fraction (LVEF) less than 40% or a narrative description of left ventricular function (LVF) consistent with moderate or severe systolic dysfunction.

Exclusions
Unspecified

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions
Number of patients with heart failure (HF) from the denominator who are currently on an angiotensin-converting enzyme (ACE) inhibitor*

*Patients with HF who are currently on one of the following medications: "Currently" is defined as documented on the day of the visit, OR within the past 5 months, OR on last recorded medication list.

Generic Name	Trade Name
Captopril $\pm$ hydrochlorothiazide (HCTZ)	Capoten, Capozide

Generic Name	Trade Name
Enalapril $\pm$ HCTZ	Vasotec, Vaseretic
Lisinopril $\pm$ HCTZ	Prinivil, Zestril, Zestoretic
Benazepril	Lotensin
Fosinopril	Monopril
Quinapril	Accupril
Moexipril	Univasc
Ramipril	Altace
Trandolapril	Mavik
Amlodipine + Benazepril	Lotrel

Exclusions
It is not expected that all patients with HF be on ACE inhibitors. However, ACE inhibitors are often underused even when they are appropriate. Relative contraindications include:

1. history of intolerance or adverse reactions to these agents,
2. serum potassium greater than 5.5 mEq/L,
3. symptomatic hypotension (unless due to excessive diuresis),
4. severe renal artery stenosis.

DENOMINATOR TIME WINDOW

Time window is a fixed period of time

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Percentage of adult patients diagnosed with HF who are on an ACE inhibitor before or at the time of the clinic visit.

MEASURE COLLECTION

Heart Failure in Adults Measures

DEVELOPER

Institute for Clinical Systems Improvement

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2003 Jul

REVISION DATE

2004 Feb

MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: Institute for Clinical Systems Improvement (ICSI). Congestive heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2003 Jul. 80 p.

SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Heart failure in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2004 Feb. 83 p. [104 references]

MEASURE AVAILABILITY

The individual measure, "Percentage of adult patients with HF who are on an ACE inhibitor, before or at the time of the clinic visit," is published in "Health Care Guideline: Heart Failure in Adults." This document is available from the Institute for Clinical Systems Improvement (ICSI) Web site.

For more information, contact ICSI at, 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; phone: 952-814-7060; fax: 952-858-9675; Web site: www.icsi.org; e-mail: icsi.info@icsi.org.

NQMC STATUS

This NQMC summary was completed by ECRI on April 6, 2004. This summary was updated by ECRI on July 29, 2004.

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FIRSTGOV